

# Guiding the TIP

## Transportation System Plan (TSP)

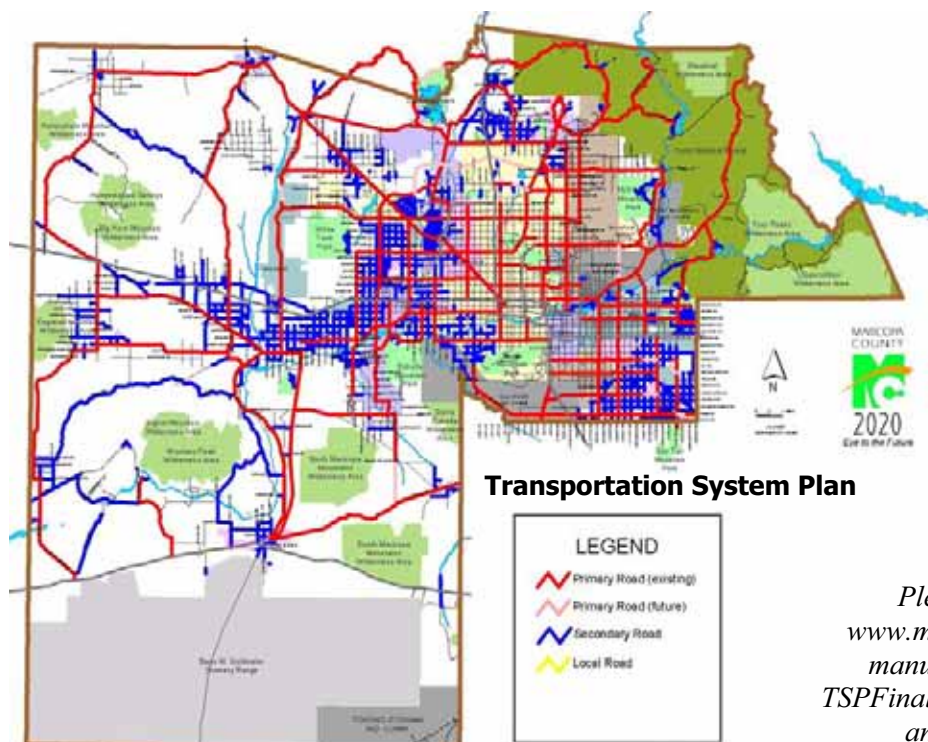
To ensure the best investment of future County funds, MCDOT has developed an integrated series of plans and studies that include the Transportation System Plan, Regional Trail System Plan, Bicycle Transportation Plan, annual State of the System Report and numerous corridor studies. These tools provide various levels of detailed guidance when developing individual transportation projects for inclusion in the TIP.

The Board of Supervisors adopted the Transportation System Plan (TSP) in December of 1997. The TSP is the transportation element of Maricopa County's Comprehensive Plan 2020, "Eye to the Future." The TSP makes recommendations concerning how the transportation network should support safe and efficient movement of goods and

people, be environmentally compatible with surrounding conditions, and support economic development activities.

The TSP organizes all county roadways into three networks: Primary, Secondary and Local. Primary roads under County jurisdiction generally fall on the arterial grid and receive the highest priority for funding, maintenance and other activities. Secondary roads are typically arterial and collector roadways under County jurisdiction which are not included on the Primary network. Secondary roads have a lower priority and MCDOT's participation is more limited.

Local roads are the remaining roadways that provide access to residences and feed into the secondary system. MCDOT may maintain or provide assistance for planning and design on these roads, but generally will not participate in any significant improvements. To guide the selection and prioritization of projects



**Figure 3. Transportation System Plan**

Please visit [http://www.mcdot.maricopa.gov/manuals/eng\\_manuals/TSPFinal.pdf](http://www.mcdot.maricopa.gov/manuals/eng_manuals/TSPFinal.pdf), (page 31) to see an enlarged map

## Guiding the TIP (continued)

considered for the Transportation Improvement Program (TIP), the TSP uses an investment matrix that is applied to each candidate project evaluated for the TIP. The matrix provides direction on investing County funds for roadway projects.

### Transportation System Plan Update

During the period 1996-2000, four Small Area Transportation Studies were completed as part of the comprehensive planning process. Each study covered a different region of the County—northwest, northeast, southwest and southeast. These studies identified short, medium and long-range transportation needs. They also recommended transit, bicycle and other alternative mode needs. More recently, the Maricopa Association of Governments (MAG) developed three small area plans prior to the approval for the Regional Transportation Plan in 2003.

MCDOT began the process of updating its Transportation System Plan in January 2005. This planning effort will be complete in July 2006. The recommendations from this plan will address transportation needs originally identified in the four small area studies. The updated TSP will include an asset management component to help make life cycle analysis an integral part of the decision making process at MCDOT.

### Transportation Management Systems

Each year MCDOT monitors and measures the performance of the County's roadway and bridge systems. The four areas monitored include congestion, safety,



pavement conditions and bridge conditions. The results of these monitoring systems help MCDOT to plan and program future improvement projects.

### Congestion Management System (CMS)

MCDOT developed the CMS to provide data on the location of present and future traffic congestion. The CMS documents how well the county's transportation system is performing with respect to currently congested roads and possible future congested routes. The data from the CMS is used to recommend which roadways to improve and intersections to upgrade in order to better handle traffic.

### Safety Management System (SMS)

The SMS identifies where potential highway safety problems are or may occur. Suggested improvements are considered and implemented where suitable and feasible. Traffic engineering staff evaluates traffic accident information including the type, location, cost and rates of crashes for all county roadway

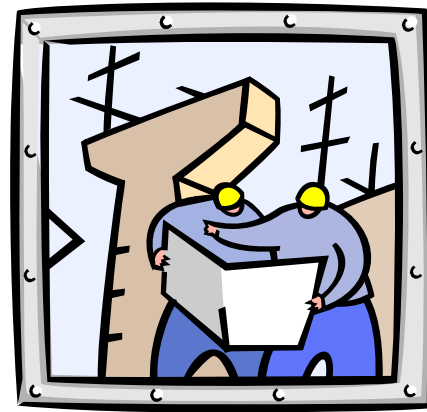
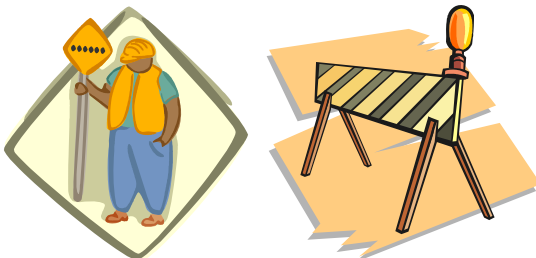
## Guiding the TIP (continued)

segments and intersections. The County uses this data for developing effective highway safety strategies and selecting future TIP projects.

### Roadway Management System (RMS)

The county RMS is designed to provide the data necessary to make informed decisions concerning which roadways should receive maintenance, reconstruction, or capacity enhancements. The RMS consists of data collection, inventory of existing pavement conditions and overall roadway features, including the number of lanes, pavement widths and surface types. The RMS also includes a condition survey that measures ride quality, surface distress, rutting and surface friction. This data is used to analyze and summarize pavement conditions and evaluate the overall functioning efficiency of the roadway.

The RMS is used to select and recommend cost-effective pavement construction, rehabilitation and maintenance strategies. The MCDOT Construction and Operations Division uses the data for planning its annual pavement maintenance program. The MCDOT Planning Division also uses the RMS to evaluate current and future projects for the TIP.



### Bridge Management System (BMS)

The Bridge Management System evaluates bridges and structures within the MCDOT inventory using the Federal Bridge Rating System and the professional judgment of the MCDOT Bridge Engineer. Using the BMS, MCDOT can identify potential new bridge projects, projects to upgrade existing bridges and structures, predict costs and perform short and long-term budgeting. The County can also recommend bridge rehabilitation and replacement project consistent with MCDOT's policy and budget limits.

### Bicycle Transportation System Plan

The Bicycle Transportation System Plan serves as an implementation element of the Transportation System Plan of the Comprehensive Plan. It is intended to clearly define County bicycle policy and provide recommendations for the future. The Bicycle Plan identifies a countywide bike network of roads that should have bike facilities added to them in the future. This network is fully integrated with the facilities that are included in the local city and town bike plans. Please see the County Bike Program website at [http://www.mcdot.maricopa.gov/manuals/eng\\_manuals/TSPFinal.pdf](http://www.mcdot.maricopa.gov/manuals/eng_manuals/TSPFinal.pdf) (page 48) for more information.

# Guiding the TIP (continued)

## Corridor Studies

A corridor study is typically conducted on County Primary System roadways or other significant corridors that are anticipated to have future issues with respect to congestion, access control, road alignment, development and safety. Corridors typically range from six to twenty miles long. Each study evaluates several alternatives to solve the identified issues. An extensive public involvement program is included as part of each corridor study. Completed corridor studies

establish the ultimate footprint for the roadway and recommend construction phasing for the roadway. Each Corridor Study is updated when needed in order to keep it current with its adjacent land development and future traffic volumes. Corridor studies will be completed for all the Primary System roads in unincorporated Maricopa County along with other important regional corridors. The schedule for completion will vary depending on several factors and there may be more than one study for a single route.

1. 99<sup>th</sup> Avenue from I-10 to Glendale Avenue
2. Carefree Highway from Lake Pleasant Road to Cave Creek Road
3. Ellsworth Road from Hunt Highway (County line) to Warner Road
4. Loop 303 from MC 85 north and east to Lake Pleasant Road
5. Avondale Boulevard from Gila River to MC 85
6. MC 85 from SR 85 to 75<sup>th</sup> Avenue
7. Dysart Road from Northern Avenue to Greenway Road
8. Riggs Road from I-10 east to Meridian Road
9. I-17 Parallel Access
10. Jackrabbit Trail/Tuthill Road from Germann Road to Indian School Road
11. Lake Pleasant Road from Williams Road to Carefree Highway
12. Power Road from Riggs Road to Guadalupe Road
13. Gilbert Road from Hunt Highway to Williams field Road
14. Queen Creek Road from Gilbert Road to Power Road
15. Loop 303 Location Study
16. Olive Avenue from White Tanks Park Entrance to Dysart Road
17. McDowell Road from Sun Valley Parkway to Jackrabbit Trail
18. Loop 303 Southern Extension Location Study, from Riggs Road to MC 85
19. Meridian Road from Hunt Highway to US 60
20. Ocotillo Road from Alma School Road to Power Road

**Figure 4. Completed Corridor Studies**

1. Patton Road from 307<sup>th</sup> Ave to Grand Ave
2. Carefree Highway from Interstate 17 to Scottsdale Road
3. MC 85 from 75<sup>th</sup> Avenue to Turner Road
4. Sun Valley Parkway
5. El Mirage Road from Northern Avenue to Bell Road
6. 163<sup>rd</sup> Avenue from Grand Ave. to SR-74
7. Jomax Road from 195<sup>th</sup> Ave. to Loop 303
8. 51<sup>st</sup> Avenue from GRIC north boundary to roughly six miles to the south

**Figure 5. Corridor and related studies that are ongoing or will begin in fiscal year 2005**